R E P O R T R E S U M E S

ED 018 068 EF 001 164

THE USE OF CARPET IN COLLEGE AND UNIVERSITY BUILDINGS.

BY- GARRETT, JOE B.
AMERICAN CARPET INSTITUTE, NEW YORK, N.Y.
CALIFORNIA UNIV., LOS ANGELES

PUB DATE DEC 65

EDRS PRICE MF-$0.25 HC-$0.76 17P.

DESCRIPTORS- *ACOUSTICS, *CARPETING, *COLLEGE BUILDINGS, *DESIGN NEEDS, *FACILITY CASE STUDIES, BUILDING MATERIALS, CONTROLLED ENVIRONMENT, FLOORING, PSYCHOLOGICAL DESIGN NEEDS, SAFETY,

THOSE IN CHARGE OF PLANNING AND COSTING HAVE FOUND FAVOR WITH CARPET AS A PRACTICAL, ACOUSTICAL, ENVIRONMENTAL CONTROL MATERIAL. CARPET FITS WELL INTO IMPROVED AND DESIRABLE DESIGN IN TODAY'S COLLEGE BUILDINGS. CARPET PLA[redacted]LES OF SEVERAL MATERIALS, PERFORMING SIMULTANEOUSLY, ACOUSTICAL, THERMAL, AESTHETIC, SAFETY, AND POSITIVE PSYCHOLOGICAL FUNCTIONS WHICH MAKE IT DIFFICULT TO COMPARE DIRECTLY WITH MATERIALS WHICH ACT AS FLOOR COVERINGS ALONE. DOCUMENTATION MEASURING CARPET CHARACTER HAS PROVED THAT CARPETING IS MORE AND MORE CAPABLE OF PERFORMING SPECIFIC DESIGN TASKS AND ACCOMPLISHING SPECIFIC DESIGN OBJECTIVES, ONLY SOME OF WHICH RELATE TO THE FACT THAT IT ACTS AS FLOOR COVERING MATERIAL. ACOUSTICALLY, CARPET ABSORBS VERY SIGNIFICANT AMOUNTS OF AIR-BORNE NOISE WITHIN A ROOM. A PROPER COMBINATION OF CARPET AND PADDING CAN EASILY PRODUCE NOISE REDUCTION COEFFICIENTS OF .60 OR GREATER. THERE IS ALMOST TOTAL ELIMINATION OF NOISE CREATED BY FOOTFALLS OR TAPPING OBJECTS ON THE CARPETED FLOOR. SELF-NOISE IS ALSO GREATLY REDUCED. OTHER ADVANTAGES OF CARPETING ARE--(1) LESS LIGHT REFLECTION FROM FLOOR, (2) HIGH DEGREE OF SAFETY, AND (3) CIVILIZED STANDARD OF CONDUCT ASSUMED BY STUDENTS. ALSO INCLUDED ARE CASE HISTORIES OF A NUMBER OF COLLEGES AND UNIVERSITIES WHICH HAVE USED CARPET EXTENSIVELY AND HAVE OBSERVED ITS EFFECTS CLOSELY. THIS SPEECH WAS PRESENTED TO THE UNIVERSITY OF CALIFORNIA PLANNING ANALYSTS, U.C.L.A. GRADUATE SCHOOL OF BUSINESS, LOS ANGELES, CALIFORNIA, DECEMBER 3, 1965. (RK)

DOCUMENT FILMED FROM BEST AVAILABLE COPY

ED018068

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

REMARKS BY JOE B. GARRETT
AMERICAN CARPET INSTITUTE
350 FIFTH AVENUE
NEW YORK 1, NEW YORK

TO

UNIVERSITY OF CALIFORNIA
PLANNING ANALYSTS
U.C.L.A. GRADUATE SCHOOL OF BUSINESS
LOS ANGELES, CALIFORNIA

DECEMBER 3, 1965

THE USE OF CARPET IN COLLEGE AND UNIVERSITY BUILDINGS

Those of you concerned with university atmosphere and environment seem very aware of the increased use of carpet in college and university buildings in the past few years. We have had strong indication of this awareness from meetings with such groups as the National Association of Educational Buyers, and the American College and University Housing Officials Association, at local, regional, and national levels. A stream of correspondence from college officials tells us that those in charge of planning and costing have found favor with carpet as a practical, acoustical, environmental control material. They have also found that carpet fits well into improved and desirable design in today's college buildings.

CARPET'S TOTAL USEFULNESS:

To understand this rapid trend, it is essential to consider the total design usefulness of carpet - design which capitalizes on all the contributions made by carpets character. Consider that carpet plays the roles of several materials - performing simultaneously, acoustical, thermal, aesthetic, safety, and positive psychological functions which make it somewhat difficult to compare directly with materials which act as floor coverings alone. Carpet's extra dimensions have become important design tools in dormitories, classrooms, student lounges, union buildings, libraries, and many other [illegible] spaces, which it is now recognized, need an extra push when it comes to environmental treatments.

This is an evolutionary upgrading process being reflected in many new or remodeled buildings of good design. In fact, a broad range of building types use carpet today in ways unheard of only a few years ago. Schools at the elementary and secondary level use carpet commonly in academic spaces. Office buildings use carpets in general office areas and entry and lobby areas and traditional executive areas. Hospitals use carpet to solve complaint producing noise problems

of long standing, and make the patient comfortable. A broad range of retail and recreational establishments commonly use acoustical material at the floor level today. To our surprise, a great many supermarkets and automobile showrooms are now carpeted as are many commercial and residential kitchens. Neither is it uncommon to find carpet being used as a vertically hanging acoustical material in lecture halls and spaces which require a reduction in reverberation times of speech.

Theses are some of the new uses of carpet today which have resulted from the measurement and recognition of the total utility of the multi-dimensional character of the product. This same "total" carpet character makes it particularly suited to college buildings. Carpet is acceptable and desirable from the standpoint of decor as living and instructional spaces are upgraded. The importance and positive effects of a proper kind of environment are well established. Carpet is also acceptable and desirable from the standpoint of acoustics, maintenance, safety, environmental affect, and total cost.

THE MEASUREMENT OF CARPET CHARACTER:

How was this measurement of carpets suitability accomplished? As we have indicated, we have always known that carpet was considerably quieter than other floor coverings, but we did not know just to what degree it could act and with what efficiency as an acoustical material. We set in motion research some ten years ago to determine this. A very sophisticated literature exists today on the acoustical ability of carpet.

We had always felt that carpet was cheaper to maintain simply on the common sense basis of there being fewer operations necessary to perform in order to sustain a decent appearance level. We undertook research to determine just to what degree this was true and express it in dollars and cents terms.

We had always felt carpet had an insulative or thermal ability, however, this had not been explored, only estimated. We are currently involved in research projects which will give us the efficiency rating of carpet as a thermal material which will possibly result in important heat savings.

We had always felt, and it had been observed by a great many qualified people that carpet created a very positive atmosphere, whether in the school or the general office and could have an affect on attitude and behavior patterns. There is still a great deal of official work to be done in this area but it is has been consistently observed that carpet produces this positive affect which manifests itself in good or improved behavior patterns, greater respect for the space and furnishings, and generally desirable attitudes in schools, hospitals, offices, or public spaces.

As documentation of these various effects and advantages of carpet has come in, carpet has come to be looked upon as more and more capable of performing specific design tasks and accomplishing specific design objectives, only some of which relate to the fact that it acts as floor covering material.

ACOUSTICS:

To get specific for just a moment in the area of acoustics, the Kodaras Acoustical Laboratories, in tests recently completed, reaffirmed that carpet absorbs very significant amounts of air-borne noise within a room, and that the proper combination of carpet and padding could easily produce noise reduction co-efficients of .60 or greater. This is one kind of noise control. Perhaps a more important kind of noise control in the spaces with which you are concerned is the impact noise ratings which carpet is able to produce. This simply amounts to the almost total elimination of noise created by footfalls or tapping objects on the carpeted floor. For example, in a room immediately below a carpeted room it is difficult to hear any impact noises such as footfalls. Carpet controls another type of sound very significantly; this is self-noise, or that noise generated within a room. It is the noise you hear when you walk over a specific floor. With carpet there is almost no self-noise. Test after test shows that carpet does control impact and self-noise to the degree that they are almost unheard, at the same time it performs very efficiently in the area of absorption of air-borne noises such as voices and music.

All this has a direct bearing, of course, on high rise buildings, whether dormitory, or academic spaces. These buildings become far more workable and useable. Corridor noise is greatly reduced, noise levels in adjacent living or classroom also become subdued. This makes particular good sense in academic spaces since most respected acoustical engineers will today recommend a hard reflective ceiling with superior lighting design which affords greater lighting flexibility and the possibility of better lighting systems, but reflects the instructors voice to all parts of the room. The result is overall improvement communications.

A related type of construction, the apartment building, provides a dramatic example of carpet's ability to control sound. The revised building code proposed for New York City contains provisions making carpet mandatory in high rise apartments for acoustical purposes,

Even more closely related is Andrews Texas High School, a design of San Francisco architect, John Lyon Reid. Andrews is completely carpeted in all academic areas. Mr. Reid felt this was necessary for the design success of the building. Carpet is its only acoustical treatment. Mr. Reid estimates savings up to $150.00 per classroom which would have been spent on other acoustical treatments. This particular school was rated acoustically very satisfactory in a nationwide acoustical study of secondary schools by Architects Reid and Dariel Fitzroy, acoustical consultant from San Francisco. The full results of their study have been published by Educational Facilities Laboratories, the non-profit arm of the Ford Foundation, set up for the purpose of improving school design at all levels. Educational Facilities Laboratories has been particularly active in this part of the country through their west coast facility which is incorporated in the Stanford School Plant Planning Laboratory.

OTHER ADVANTAGES:

The use of carpet on the floor has also meant less light reflection from the floor. It has also meant a high degree of safety since falls very rarely occur on carpet, and those falls which do occur rarely result in injuries. This is a fact we have not talked enough about. I am certain that many of you have had lawsuits brought against your school as a direct result of such falls and injuries.

The acoustical and psychological benefits of carpeting in schools have also resulted in a number of educational efficiencies in the sense that academic programs capitalize on these particular points. Carpet inspires a civilized standard of conduct among students - certainly among male students. Carpet is most desirable from the standpoint of the woman student.

Considering the type housing you are concerned with today whether college provided fraternity housing, married student housing, faculty housing, or the traditional dormitory, there is a much greater need for flexibility as far as interior materials are concerned, there is a much greater need for redeployability of materials in line with the use of more convertible housing, and there is a definite need for some of the amenities of today's living which the occupants of these spaces might normally be surrounded with.

CASE HISTORIES:

In the belief that specific examples are most useful to you, we would like to relate now the experiences of a number of colleges and universities who have used carpet extensively and have observed its effects closely. The majority of schools have also had experience with more traditional school floor coverings

EAST:

Concentrating first in the East we recently received a letter from Clifton C. Flather Administrator Director of the Dormitory Authority of the State of New York which since its inception has constructed well over a quarter of a billion dollars of student housing in both private colleges as well as on university campuses. Mr. Flather explained the rationale of carpet use in dormitories on an initial cost basis as follows:

> "Our investigation of the economics of carpet installation in dormitories and dining halls constructed by the Dormitory Authority have elicited the following conclusions:
>
> "The carpet should be engineered expressly for the areas and the the type of use to which it is to be exposed. We currently use four different types with special construction features for specific areas, such as dormitory rooms, dining rooms, corridors and stairs. We also obtain maximum economies by taking carpet bids

on several projects at the same time. The basic carpet specifications are maintained with variations only in color and pattern, providing needed individuality for each campus.

"The incorporation of carpeted areas in the early planning stages of a project is important to effective cost control. The detailing by the architects concerning cove base, door swings, door saddles, door heights and carpet termination points can be pre-planned, included in the general specifications and become part of the basic contract. An omission of any of these items in initial planning can lead to costly change orders later on when the project is in the final finishing stages.

"In carpeted public areas we have been able to eliminate costly suspended acoustic ceilings, with very satisfactory results. The savings thus afforded, along with the credit obtained for elimination of hard surfaced flooring, has enabled us to install carpet on an initial cost basis comparing favorably with other floorings generally specified for use in these areas. We also obtain additional savings by entering into a direct contract with a reputable carpet company to furnish and install, rather than have the installation handled through the general contractor. The present practice is for the general contractor to add 15% for profit and overhead, which adds nothing to the quality of the carpet.

"The Dormitory Authority is not directly involved in the operation of the dormitories once they are completed so we have no actual figures available on maintenance costs. There have been implied savings in Chinaware replacement, air condition system servicing by elimination of dust by vacuuming, and heat gains through elimination of floor drafts at door openings. There seems to be a certain pride in maintaining the carpeted areas never previously encountered when scrubbing and mopping hard surface floors."

The Dormitory Authority has also approved carpet for a number of rehabilitation projects among them the campus at Buffalo, where an eminently satisfactory experience has been reported by Dr. Charles Ball at that campus. Dr. Ball told us that aside from the economics of the matter, he felt carpet should be justified on the basis of improvement in environment.

At Cornell University, Ithaca, New York, Mrs. Blanche K. Hildreth has this to say about carpet which was installed in the corridors of six freshmen dormitories in the summer of 1964:

1. "The carpet is of good material and has worn extremely well.

2. "The maids vacuum the carpets once a day--5 days a week. The cleaners used by the maids are Hoover uprights and they do a good job of sweeping. The maid uses a heavy duty Hoover cleaner once a week and this does an excellent cleaning job on the carpets.

3. "The acoustic ceiling tiles are not falling any more. They used to fall all the time and were quite an expense to keep replaced. The carpet has kept vibrations to a minimum and ceased the droppage of these tiles.

4. "Failure to hear fire alarms was a problem at first. Larger fire horns were installed in one dorm, but the others seem to be o.k.

5. "The quieter atmosphere, created by carpeting, has reduced greatly the general horseplay in corridors. Once in a while you will find some ball playing, but rarely--for the balls do not bounce too well! We are a great hockey school and hockey pucks used to fly around many halls--but not any more, for the pucks will not sail on the carpets. You will more likely come upon a boy sitting in the hall, on the floor, talking on the hall phone."

Going south to the University of South Florida in Tampa, Florida, Andrew C. Rodgers Business Manager, provided a report which had been submitted to his Board and on which they based their approval for use of carpets in general classrooms, faculty offices, dormitories, and other places where carpet was suitable.

In his summary of cost comparisons between vinyl asbestos and nylon carpeted floors for general classroom use, Mr. Rodgers experienced a net savings annually per average 720 square foot classroom of $35.08; this included replacement cost, and maintenance cost for both types of floor coverings. He concludes,

> "Our experience with carpets in the dormitories and classrooms has been excellent and we plan to continue use of it in future buildings."

In the general commercial carpet use area, the Florida Power and Light Company office building in Miami is 70 per cent carpeted. Details of this installation are reported in the October, 1965, issue of "Contract Cleaning" magazine. The building contains one hundred twelve thousand square feet of carpet in all office and work areas and the 282 seat cafeteria dining room. To paraphrase the magazine article, the building was searching for methods of reducing maintenance costs and settled on carpet to do the job. The Company analysis showed an annual savings of $21,000 was possible on maintenance costs by using carpet. This they estimated would pay out the cost of the carpet in about five years. The article states, "In addition to being attractive, the carpeting reduces noise by absorbing sound and it permits other economies in construction."

At Lafayette College, Easton, Pennsylvania, 52,000 square feet of carpeting is in the new library. Three maintenance men are used from 11:00 p.m. - 8:00 a.m. five days a week, (these men also take care of four restrooms, a large quantity of glass paneling, an outside patio, three sunken gardens, plus cleaning windows inside and out). On the carpet, spot removal is performed daily, heavy traffic areas are cleaned daily with a beater-bar vacuum, Medium traffic areas are vacuumed every other night with the beater-bar machine; light traffic areas are vacuumed twice each week; pile-lifter vacuum once a week in heavy traffic

areas, and medium traffic areas every two weeks. After two years of use, no major cleaning, using either powder cleaning or shampooing, has been required. Over 250,000 people it is estimated have used the carpeted area during that time. Weston Ebner, Educational Building Supervisor at Lafayette College says:

> "It is doubtful that with any other type of floor covering that this amount of work could be accomplished with three men."

At Radford College, Radford, Virginia, carpets use in a dining hall produced this comment from C. F. Gerrett, Business Manager:

> "We are convinced that there is much less time, effort and expense involved in maintaining carpets as opposed to any hard surface floor.
>
> "We have approximately 1,500 square yards of carpeting, one-half of which has been there in excess of thirteen years and is still in excellent condition. We are convinced that our maintenance routine is far simpler than the sweeping, mopping and waxing operation which would be required when hard surface floors are used."

Going back to the New York area, the Banker's Trust Company Building has 200,000 square feet of carpet. This carpet has not been shampooed in three years of use.

Banker's Trust is expecting a service life of twenty years from carpet in general office areas and higher in inner executive offices. Ernest Hultgren, Building Manager, and John Blake, Maintenance Superintendent, say the following:

> "There is no question that it is much, much cheaper to maintain carpet than hard floors. Whatever time might be saved daily in simply sweeping resilient floors is lost over and over again each time we have to scrub and refinish resilient floors. As for spotting or wearing, we have absolutely no problems; our employees appreciate the carpeting and avoid spotting or staining it. These factors have been borne out time and time again in each of our buildings with carpet."

Shaker High School in upstate New York is perhaps the prime example of the benefits which accrue to carpeted schools. A carpet in Shaker was put down eight years ago by the carpet industry as an experimental installation. Twenty-five thousand square feet of carpet was used throughout academic areas; varying types were used. Certain attrition points were planned well in advance. There were some experimental fabrics included in this installation. The authorities involved in this test have consistently reported very, very satisfactory results. The carpet is today in good condition.

Perhaps some of you have had a chance to visit this installation. It is certainly open to you at any time. We also invite you to call the principal of the school, Millard Smith, for a firsthand reaction. A number of tests and observations

have been undertaken at Shaker High. Comparative maintenance costs tests and on location acoustical tests were among those conducted. The school has been visited by architects, administrators and school planners from all over the world.

We know of no instance of responsible reporting which concludes on anything other than a positive note regarding the effects of carpet at Shaker High School, not only on visitors, but on faculty, students and administrators.

In a speech to the Massachusetts Association of School Committees in Chicopee, Massachusetts in May of last year, Mr. Smith estimated after seven year's use that corridor carpet at Shaker High School would last a full ten to twelve years, and classroom carpet fifteen years or longer. I emphasize that certain attrition points were planned in advance, as we would recommend you do. These included the stairwells and the area immediately at the top of the stairs where students pivoted to go to corridors in both directions. Quoting Principal Smith further:

> "Carpeting contributes significantly to the de-institutionalizing of the school and school life. Students take greater pride in the school and are more relaxed in the activities they carry on there. Loud talking and horseplay stop in carpeted areas. Hats and caps are removed.
>
> "The presence of carpet has been observed by all of our faculty as a major cause of positive habit development by students using these areas.
>
> "There is a unanimous feeling on the part of the staff that they would prefer to teach in carpeted rooms. Because the atmosphere is informal, the teachers at Shaker find it easier to develop a close relationship between student and teacher."

In close proximity to Shaker High School is the Westport, Connecticut, school system which conducted, entirely on its own, perhaps the most thorough investigation of the merits of carpet compared to more traditional school floor coverings. The study included initial cost, maintenance costs, and total expenses projected over a twenty year period. The Westport Board of Education concluded in favor of carpeting, has installed carpeting in two schools, and has plans to carpet more. The educational officials there are particularly delighted with the overall affect that carpet has on the educational process and the teaching - learning environment as reported in the fall, 1965 issue of "Educational Equipment and Materials" magazine. As recently as November 7, the New York Times in its educational section reported on the Coleytown Junior High School in Westport, with a headline saying, 'Westport's School in the Round' Gets an A-Plus. The structure is designed by Joseph Salerno and carpeted throughout.

MIDWEST:

Back at the college level and in the midwest Denison University at Granville, Ohio, has had long experience with carpet dating back to 1939. A letter from Mr. A.J. Johnson, Business Manager, February 9, 1965, related their experiences as follows:

> "In 1960 we opened two new women's dormitories and a women's dining hall. In the dormitories, the lounges and the corridors are carpeted, wall to wall. The dining room in which we regularly seat 700 girls at a sitting, is fully carpeted with a specially woven plaid [redacted] carpet, which has been very widely admired and which is holding up very well. In this room we have a contract with the company that made the installation to give it a thorough cleaning twice a year and spot cleanings in between, and, of course, our own employees wipe up spills very quickly and do the necessary vacuum cleaning each day. The use of this carpet has given us a beautiful, quiet and orderly dining room, which is greatly appreciated by the girls.
>
> "Our latest use of carpet is in the new classroom building which was just opened the 5th of January, 1965. In this building there are twenty-eight classrooms and thirty-eight offices, plus corridors on the first, second, third, and fourth floors, all of which are carpeted wall to wall."

Also in the midwest at Barrington Illinois Public Schools, the classrooms of the Roslyn and Grove Schools are carpeted and have been in use two years. Dr. Robert M. Finley, Superintendent of Schools reports on this installation as follows:

> "The carpet is still in good condition after two years and has not been professionally cleaned...The cleaning aspect is wonderful. There are no black marks as on the tile floors.
>
> "Vacuum cleaning picks up dust, dirt, etc., instead of spreading it around.
>
> "I am convinced that the atmosphere for learning is improved, especially for the elementary grades.
>
> "All in all, we are happy with carpeting...If I have my 'druthers' in the future, I shall recommend again that carpeting be used."

Back again to a university atmosphere the University of Illinois in Chicago has 10,000 square feet of carpeting in Bryant Hall, also in classrooms, language laboratories, and conference rooms. William Moss, Superintendent of Operations there, reports:

> "Despite frequent vacuuming of entire areas, the time spent daily in carpeted areas is equal to that spent in resilient tile areas. We are stripping the tile four times a year and it is an acute problem. For really Class A maintenance, we should be re-waxing eight times a year. Thus, even at a low appearance level, we are putting more time into maintaining comparable areas of resilient tile than we do on the carpet.
>
> "Even when we have to get into shampooing the carpet, we feel that it will still come out at less annual cost than the resilient tile areas. Certainly, nothing else could cost more than maintaining resilient floors."

One of the more interesting cost projections coming out of the midwest is that done by the architectural firm of Skidmore, Owings and Merrill, for the John Crerar Library of the Illinois Institute of Technology. The architectural firm began with five types of floor coverings including carpet, vinyl, cork, vinyl asbestos, and asphalt. They considered the initial installation cost, the maintenance cost per year, estimated life expectancy, and replacement cost. While carpet was more expensive on an intial cost basis it was charted to be far less expensive over the fifty year life of the building, according to the architect's projections. This survey and cost projection was, of course, completely independent.

Also in the midwest: Lee E. Polley, Director of Housing of Central Michigan University, advised the Institute of that school's very extensive use of carpet in dormitories dating back several years. Mr. Polley reports the complete satisfaction he has had with carpet and notes that the school is planning four more new residence halls and presumes they will be carpeted also. Mr. Polley goes on to state:

> "The general reaction of our staff and students is that carpeting is wonderful. In terms of attitude, reduction of noise in residence halls, and establishing a feeling of warmth which carries over into the total student well-being, there is nothing like carpeting."

SOUTHWEST:

Out in the southwest Andrews Texas High School, already mentioned, has 45,000 square feet of carpet in all academic areas. Superintendent of Schools, Truett Roach speaking to an assembly at the American Association of School Administrators Convention in Atlantic City in February, 1965, said and we quote:

> "The use of carpeting is no longer an experiment. We are sold on it."

"Following careful study we have found that although the initial costs are greater, maintenance costs are about 50 per cent less where the floors are carpeted.

"Carpeting placed in one of our high schools three years ago has not been shampooed yet. Even oil and spots are removed so successfully that two days later one can't tell where they were.

"Custodians are happier with carpeting. We figure that 25 per cent of man hours is saved."

Mr Roach went on to say:

"I would say that by the year of 1970 there will be very few new schools which do not have carpeting in their instructional areas. Those who install it will find that it pays for itself.

We find that students study better and teachers teach more effectively where rooms are carpeted. We find too, that the students take greater pride in the carpeted classrooms and regard it more as a place to be kept as nice as they would keep their homes."

In the same general category is the Jesuit High School in Dallas, a Prep school which is quite outstanding. The classrooms and the library are carpeted. Father Tynan is quoted as saying:

"Our original intention, was to write off the cost of our carpeting in five years, instead, we are going to do it in four, because the savings in maintenance costs are even larger than we expected them to be. The money to pay off the cost of our carpeting comes from a fund of accumulated maintenance savings."

Jesuit High School has carpeting in 22 classrooms.

In the West, at Brigham Young University in Utah, C.R. Peterson, Purchasing Agent, reports the experience of his housing department concerning the ease of maintaining carpeted floors as follows:

"They speak of the simple vacuum cleaning of carpet as compared with mopping and waxing the hard surfaced floors, and are quite definite in their assertion that it is cheaper to take care of carpet. The sound elimination factor is also strongly praised by them. They say that carpet in the corridors has made traffic unnoticed inside the rooms "

WEST:

This brings us to the West coast where significantly the carpeted school rate is growing perhaps faster than any other single area of the country. California is particularly progressive in this respect and I am quite sure you are aware of the work of the Stanford School Planning Laboratory, The First California Commission on School Construction which subscribes to a quite well known modular system. California builds new school buildings at a rate faster than any other state, and to our knowledge this is true at all levels. California has been a particularly fertile market for many new school products as we have evolved into an era of modern school design rather than what might be called depression decor.

Let me cite you a few examples which I am sure will be of interest. Perhaps one of the best known to you is Foothill College in Los Altos Hills, California. Many innovations were included in the design and furnishings of this school, carpeting among them. The school has been featured in a number of architectural and school magazines plus Educational Facilities Laboratories publications.

Over 3,500 yards of carpet is installed in the library, lounge and offices, Business Manager George Castleberry says:

> "Many may think that the use of carpeting is a luxury, but we have the figures to show that carpeting greatly reduces our maintenance costs while at the same time giving us a number of additional benefits."

Librarian at Foothill, Elizabeth Martin reports that they are very pleased with the carpet, that the wear and the problems are minor, and that carpeting is planned for the library of the second campus now in the planning stage.

A great many other West coast colleges use carpet in varying ways and degrees among them Claremont, U.C.L.A., University of the Pacific, Immaculate Heart College, Marymount College, Pepperdine College, University of Santa Clara, Stanford University which we have already mentioned, Occidental College, Cabrillo College in Santa Cruz, Carlsbad Junior College, Southwest Junior College which is south of San Diego, and others.

In the summer of 1964 I was privileged to attend a facilities planning session sponsored by the American Library Association in St. Louis, Presentations there on the relative merits of different floor coverings were heard. These presentations on carpet and hard surface floorings were followed by a panel of librarians themselves who today use carpet and had previous experience with hard surface materials. Among the panelists was Homer Fletcher, City Librarian, Arcadia, California. His remarks, along with the others, were published by the American Library Association in the booklet "The Library Environment" and are available as the official record of the proceedings. We quote directly from the statement made by Mr. Fletcher:

> "The Arcadia Public Library has been open to the public since April, 1961. Since that date patrons have crossed our threshold an estimated 500,000 times per year, or approximately

1,500,000 times in the three years we have been open. The carpet at the entry has borne all of this traffic at one spot, as we have only one public entrance and exit to the building; yet even this area is holding up very well and will not need replacement until some years hence.

"Our decision to use carpeting in the Arcadia Public Library was not a hasty one. Numerous contacts were made with maintenance personnel, department stores, vinyl suppliers, public library maintenance staffs, carpet suppliers, carpet cleaners, and others. Recommendations as to types of flooring, including types of carpet, were requested from many sources. My list of contacts numbered about thirty individuals, firms, and institutions. Letters of information were solicited. When all this material was compiled, the following facts were evident:

'Carpeting is 30-50 per cent less costly to maintain than hard floor coverings.' The actual figures are about 25¢ per square foot annually, even with daily vacuuming, as compared to about 50¢ per square foot in the old building with resilient tile.

'Savings realized from lower maintenance expenditures will more than pay for replacement costs.' The advance figures projected 4.3 pay-out years, or a 23.1 per cent on our investment. Our actual experience has shown that this figure has been decreased to about 3.4 pay-out years with a 30 per cent return on our investment.

'Carpeting is such a good sound conditioner that acoustical tile can be reduced or eliminated, depending on the ceiling design. For maximum sound control most experts recommend leaving the tile in, but if you need to show a savings here to get the carpet, omit it.

'The possibility of accident is reduced. Carpeting is more comfortable underfoot than other floor coverings. Carpeting adds a feeling of warmth and enhances the general library atmosphere.

"The best possible specifications should be written so that the carpet installation will hold up under the closest inspection.

"The cost on the original bid was $11.85 per square yard in place,

including a 40-ounce all-hair pad with clamp-down metal at all exposed edges. We used carpeting every place feasible - a total of 24,000 square feet. The shelving was set directly on top of the carpeting.

"A few other points which I would like to mention as a result of our experience are:

'Carpeting can be plugged and replaced if necessary.

'Spotting kits are available for removing motor oil, tar, and other substances.

'Shampooing has been needed less frequently than we originally thought. We now estimate every three or four years in public areas; every five to six years in office areas.

'The problem of static electricity is minor. The movement of book trucks is somewhat more difficult but presents no real problem. Damage from stacks is minor. When stacks have been moved, we cannot tell where they were prior to the move."

On the same panel Alfred Rawlinson, University of South Carolina Librarian, reported experiences very closely related to those of Mr. Fletcher. He stated that carpeting in the University of South Carolina Library's dated back to the year 1840.

Joan Shinew, Librarian of Colorado College, Colorado Springs, was on the same panel. She reported as follows:

"Our library is carpeted throughout except for a small processing room and a small front entranceway - altogether, about 40,000 square feet of carpeting.

"First of all, we used it for aesthetic reasons. It provides a striking and softening contrast to the concrete columns throughout the building and to the ceiling which contains the lighting fixtures. In areas where we have upholstered lounge furniture, the color and the texture contrasts are all very pleasing. The carpeting affords a superb surface to walk on and seems to cut those fifty miles librarians walk each day almost in half. Another advantage is that it reduces noise levels to a remarkable degree. Combined with the drapes on the main floor, it is an excellent acoustical material. A normal speaking voice in the public areas does not carry at all.

"The head of our building and maintenance operation has become a strong proponent of carpeting as a floor covering

> and as a result of having used it in this building, is using it more and more elsewhere on the campus. He tells me that he is now planning to use carpeting in the corridors of a new men's dormitory. He feels that it is difficult to gauge maintenance costs precisely, but he does believe that the carpeting represents a savings of one custodian in our building. We employ two custodians, and presumably, because of the relatively small amount of time necessary for maintaining the carpeting, these custodians are free for other tasks, such as vacuuming or dusting the books etcetera. The maintenance head estimates that a custodian's salary over a period of ten years would actually pay for the carpeting."

The publication containing these statements is available from the American Library Association, 50 East Huron Street, Chicago, Illinois.

One of the most striking and dramatic examples of savings possible through carpet use at the floor level is illustrated in a company which exists in Fullerton, California, known as the School Service Company. The operations of this company were reported in College Newsletter #5 from Educational Facilities Laboratories in New York City. Basically the Newsletter reports that the organization contracts with schools, at approximately the same maintenance cost that they now pay for maintenance of the total building, to take over this total maintenance project. The organization then gives the school wall to wall carpet throughout, at no cost to the school. The organization's profits are then realized through a reduction in maintenance costs and a carefully engineered approach to the maintenance process based upon sustaining appropriate and needed appearance levels.

The Newsletter begins:

> "Via the wonders of American enterprise, seven California public schools opened this fall, their interiors graced by 30,000 square yards, or almost 6 acres of wall to wall carpeting that won't set them back a nickel initially. The carpet is not a gift. The secret ingredient is maintenance."

The Newsletter goes on to say and we quote:

> "The carpet-maintenance package provides that where schools contract for 5 years of maintenance services, the installation and care of carpeting is part of the deal. Two factors make the arrangement possible:
>
> 'a. With carpeting, less maintenance is required than when the schools had hard surface flooring;
>
> 'b. the contractor, using special equipment and techniques, is able to perform the work with greater efficiency than the school's custodial staffs. Where a school formerly required 8 men to do the job, the contractor can cut it to 5.

'The saving on the cost of the 3 men amortizes the carpeting. The arrangement therefore, is not possible without the carpeting."

Among other carpeted California schools at the secondary level are:

Valley High School; Las Vegas, California
Cottonwood High School; Palo Alto, California
Valencia High School; Placentia, California
Rowland High School; Rowland Heights, California
Willow Glenn High School; San Jose, California
Amador High School; Pleasanton, California
James Monroe Elementary School; Santa Anna, California
Troy High School; Fullerton, California
Edgewood High School; W. Covina, California
Northview High School; Covina, California
Goddar High School; Monteballo, California
Lemoore High School; Lemoore, California
Mt. Pleasant High School; East San Jose, California

The George Milner Elementary School was reported as being carpeted in the latest issue of "American School and University" magazine. The Dilworth Elementary School in Cupertino, and the Fairmont Elementary School in Pacifica also contain substantial amounts of carpet.

It is important to cite the remarks of Charles Gibson, Chief of the Bureau of School Planning of the California State Department of Education in Sacramento, who in a recent speech indicated that 80 per cent of new California school construction contains in the planning stage provision for very substantial amounts of carpet.

These are only a few of the case histories we would like to mention which contain carpeting. It is generally agreed that these are trend setting schools. The majority of them have been designed and built by name architects who widely influence the entire school construction field. The most important architectural names in the school construction field were the first to use acoustical floor coverings or carpet.

It is important not to overlook the value of acoustical floor coverings in rehabilitation projects since it obviously is much easier to slipcover old spaces and bring them completely up to date with carpeting than to have to remove more traditional floor coverings through laborious methods which are also quite costly. The use of carpet in these older spaces tends to bring them up to date with the new.

We emphasize again the total compatability of carpet from the standpoints of decor, current design trends, and design objectives. We feel that the use of carpets is simply the end result of an evolutionary process. School

design today has outgrown many of the principles used at the turn of the century. Concurrent with this evolutionary process has been the development of sophisticated data which qualified carpet as basic building materiel.

A true assessment of the future of carpets in schools would likely bring one to the conclusion that the end is difficult to foresee. Their educational importance has become much greater than we ever thought. We cannot, therefore, tell you just how many schools will have carpeting in the years ahead, however, indications form all areas of the country indicate that carpet will indeed become commonplace in years to come.

##########